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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/723,183	11/26/2003	Edward P. Liscio	MR/02-021	5714

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James R. Stevenson
Medrad, Inc.
One Medrad Drive
Indianola, PA 15051

EXAMINER	
PRASAD, SONAL	

ART UNIT	PAPER NUMBER
3767	

DATE MAILED: 01/25/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/723,183	LISCIO ET AL.	
	Examiner	Art Unit	
	Sonal Prasad	3767	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *26 November 2003*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) 4-33 is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) 4-8, 12-14, 18-21, 25-27, 30, 32 is/are rejected.

7)☒ Claim(s) 9-11, 15-17, 22-24, 28, 29, 31, 33 is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date 7/29/04
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-3 were not selected. Claims 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Staats et al. (US 2002/0169415 A1). Staats et al discloses a battery charger system for all injector system, said injector system having an idle mode of operation and a non-idle mode of operation, the battery charger system comprising (Claim 1):

(a) a first power cord for conveying AC power from a source thereof;

(b) an AC/DC converter for converting the AC power received from said first power cord to DC power;

(c) a second power cord for conveying the DC power received from an output of said AC/DC converter; and

(d) a battery pack including a battery and a charging module, said charging module for receiving the DC power from said AC/DC converter (Fig. 2) via said second power cord and for monitoring the operating mode of said injector system such that when said injector system is operating in said idle mode, said charger module provides the DC power received from said ACJDC converter to said battery for the charging thereof and (I) said non-idle mode, said charger module prevents the DC power received from said

AC/DC converter to said battery for the charging thereof and (II) said non-idle mode, said charger module prevents the DC power from said AC/DC converter from reaching said battery and thus enables said battery to provide DC power to said injector system. (Fig. 2)

Regarding claim 5, Staats et al discloses the battery charger system wherein said charger module also provides the DC power received from said AC/DC converter to said injector system when said injector system is operating is said idle mode of operation. (Abstract)

Regarding claim 6, Staats et al discloses the battery charger system wherein said charger module also enables the DC power from said AC/DC converter to charge said battery when said battery pack is disconnected from said injector system. (Fig. 2)

Regarding claim 7, Staats et al discloses the battery charger system when said AC/DC converter is disconnected from said battery pack, said charging module enables said battery to provide DC power to said injector system whether said injector system is operating in said non-idle mode or said idle mode. (Fig. 2)

Regarding claim 8, Staats et al discloses the battery charger system wherein said second power cord comprises: a central section for routing into an aperture of a penetration panel; (b) a first end section on a first side of the penetration panel for

interconnecting said central section and said AC/DC converter; and a second end section on a second side of the penetration panel for interconnecting said central section and said battery pack. (Claim 3, Fig. 2)

Regarding claim 12, Staats et al discloses a battery charger system for use with an injection control unit of an injector system, the battery charger system comprising: (a) an AC/DC converter for converting AC power from a source thereof to DC power; (b) a battery pack including a battery and a charging module, said charging module for monitoring an operating mode of said injector system such that when said battery pack is: (disconnected from said injection control unit, said charging module enables said AC/DC converter to charge said battery with the DC power therefrom', and connected to said injection control unit, (A) upon detecting said injector system in an idle mode of operation, said charger module routes the DC power from said AC/DC converter to both said battery for the charging thereof and said injection control unit for operation thereof; and (B) upon detecting said injector system in a non-idle mode of operation, said charger module prevents said AC/DC converter from charging said battery and enables said battery to provide DC power to said injection control unit. (Fig. 2)

Regarding claim 13, Staats et al discloses the battery charger system wherein, when said AC/DC converter is disconnected from said battery pack, said charging module

enables said battery to provide DC power to said injection control unit whether said injector system is operating in said non-idle mode or said idle mode. (Abstract, Fig. 2)

Regarding claim 14, Staats et al discloses the battery charger system further including a DC power cord for interconnecting said AC/DC converter and said battery pack on opposites sides of a penetration panel, said DC power cord comprising: (a) a central section for routing into an aperture of the penetration panel, (b) a first end section on a first side of the penetration panel for interconnecting said central section and said AC/DC converter; and a second end section on a second side of the penetration panel for interconnecting said central section and said battery pack. (Claims 2 & 3)

Regarding claim 18, Staats et al discloses a battery charger system for use with a battery-powered system, the battery charger system comprising:

(a) a powèr supply for supplying DC power; and

(b) a battery pack including a battery and a charging module, said charging module connectible to said power supply for receiving the DC power therefrom and capable of monitoring an operating mode of said battery powered system when linked thereto such that when said battery pack is:

(1) disconnected from said battery-powered system, said charging module enables said power supply to charge said battery with the DC power therefrom; and

(11) connected to said battery powered system, (A) upon detecting said battery-powered system in an idle mode of operation, said charger module routes the DC power

from said power supply to both said battery for the charging thereof and said battery-powered system for operation thereof and (B) upon detecting said battery-powered system in a non-idle mode of operation, said charger module prevents said power supply from charging said battery and enables said battery to provide DC power to said battery-powered system. (Claims 1-3, Fig. 2)

Regarding claim 19, Staats et al discloses the battery charger system wherein, when said power supply is disconnected from said battery pack, said charging module enables said battery to provide DC power to said battery powered system whether said battery-powered system is operating in said non-idle mode or said idle mode. (Fig. 2)

Regarding claim 20, Staats et al discloses the battery charger system wherein said battery-powered system is an injector system. (Claim 1, line 1)

Regarding claim 21, Staats et al discloses the battery charger system further including a DC power cord for interconnecting said power supply and said battery pack on opposite sides of a barrier, said DC power cord comprising:

(a) a central section 'for routing into an aperture of the barrier;

(b) a first end section on a first side of the barrier for interconnecting said central section and said power supply; and

(c) a second end section on a second side of the barrier for interconnecting said central section and said battery pack. (Claim 1, Fig. 2)

Regarding claim 25, Staats et al discloses a charging module for a battery for use with an injection control unit of an injector system, the charging module comprising:

(a) an output selector stage for sensing a mode of operation of said injection control unit and for providing a turn-on signal when said injection control unit is operating in an idle mode and a turn-off signal when said injection control unit is operating in a non-idle mode; (Fig. 2)

(b) a charging stage connected to said output selector stage such that upon receiving (1) said turn-off signal, said charging stage prevents said battery from being charged by a power supply therefor and enables said battery to provide DC power to said injection control unit and said turn-on signal, said charging stage enables DC power from said power supply to be conveyed to said injection control unit and assumes:

(A) a low current charging mode, when a voltage level of said battery is less than a preselected minimum level, wherein said charging stage charges said battery with a charging current therefor limited to a trickle level, and

(B) a multi-state charging mode, when said voltage level of said battery is said preselected minimum level or greater, wherein said charging stage operates according to: (i) a bulk-charge state, when said voltage level of said battery is said preselected minimum level or greater yet below a set percentage of an overcharge level, wherein said charging stage charges said battery with said charging current at a peak level thereof, (Detailed description [0026])

(ii) an over-charge state, when said voltage level of said battery is equal to or exceeds said set percentage of said overcharge level, wherein said charging stage continues charging said battery until said charging current falls to a minimum threshold, and (iii) a standby state, when said charging current falls below said minimum threshold wherein said charging stage applies a constant voltage to said battery until said voltage level of said battery drops at least a specified percentage below a float level upon which said charging stage will commence operating according to said bulk-charge state', and (c) an indicator stage for indicating when said power supply is capable of providing to the charging module sufficient power to efficiently charge said battery. (Detailed description [0027])

Regarding claim 26, Staats et al discloses the charging module wherein said output selector stage includes: (a) a current monitoring circuit for sensing current drawn by said injection control unit and for outputting an output voltage less than a predetermined threshold when said current is less than a predetermined level thereby indicating that said injection control unit is operating in said idle mode and greater than said predetermined threshold when said current is greater than said predetermined level thereby indicating that said injection control unit is operating in said non-idle mode; and (b) a comparator circuit for comparing said output voltage of said current monitoring circuit with a nominal reference voltage such that when said output voltage is less than said predetermined threshold, said comparator circuit outputs said turn-on signal and

greater than said predetermined threshold, said comparator circuit outputs said turn-off signal. (Detailed description [0026 & 0027])

Regarding claim 27, Staats et al discloses the charging module wherein said current monitoring circuit includes (a) a current shunt monitor for monitoring said current drawn by said injection control unit and outputting an interim current proportional thereto', and (b) an external load resistor for converting said interim current into said output voltage corresponding thereto. (Fig. 2. #94)

Regarding claim 32, Staats et al discloses a charging module for a battery for use with a battery-powered system, the charging module comprising:
(a) an output selector stage for sensing current drawn by said battery-powered system and for providing a turn-on signal when said current is less than a predetermined level and a turn- off signal when said current is greater than said predetermined level; and
(b) a charging stage connected to said output selector stage such that upon receiving said turn-off signal, said charging stage prevents said battery from being charged by a power supply therefor and enables said battery to provide DC power to said battery powered system and said turn-on signal, said charging stage enables DC power from said power supply to be conveyed to said battery-powered system and assumes:
(A) a low current charging mode, when a voltage level of said battery is less than a preselected minimum level, wherein said charging stage charges said battery with a charging current therefor limited to a trickle level, (Abstract)

(B) a multi-state charging mode, when said voltage level of said battery is said preselected minimum level or greater, wherein said charging stage operates according to: (i) a bulk-charge state, when said voltage level of said battery is said preselected minimum level or greater yet below a set percentage of an overcharge level, wherein said charging stage charges said battery with said charging current at a peak level thereof, (Fig. 2)

(ii) an over-charge state, when said voltage level of said battery is equal to or exceeds said set percentage of said overcharge level, wherein said charging stage continues charging said battery until said charging current falls to a minimum threshold, and (iii) a standby state, when said charging current falls below said minimum threshold, wherein said charging stage applies a constant voltage to said battery until said voltage level of said battery drops at least a specified percentage below a float level upon which said charging stage will commence operating according to said bulk-charge state. (Abstract, Fig. 2, Claim 1)

Allowable Subject Matter

3. Claims 9-11, 15-17, 22-24, 28,29, 31, & 33 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Sonal Prasad whose telephone number is 571-272-3383. The examiner can normally be reached on M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Sirmons can be reached on (571)272-4965. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kevin C. Sirmons
1/18/06

Sonal Prasad
Examiner
Art Unit 3767

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